

## CLAIMS:

1. Process for controlling a switched full-duplex Ethernet type communication network including at least one source subscriber equipment and at least one destination subscriber equipment connected to each other through at least a physical link through at least one switch and through at least one virtual link which is a conceptual representation of a link from a source equipment to at least one destination equipment, the process comprising:

in a transmission service, allowing an application to access virtual links in transmission, the transmission service configured to multiplex virtual links to a physical link through an Ethernet interface; and

for each virtual link, sending packets as a function of passband allocated to the respective virtual link;

checking time characteristics of the packets in a passband protection service in the switch, for each incoming virtual link; and

destroying the packets if the allowable characteristics are exceeded, to prevent a failure in a transmitter or a virtual link from compromising traffic in other virtual links leaving the switch.

2. Process according to claim 1, further comprising, in a reception service, decoding packets, checking that a format of the decoded packets is correct, and making useful data available to applications.

3. Process according to claim 1, wherein a packet is sent and received on two virtual links, in a network redundancy service at subscriber level, to implement network redundancy, that is transparent for applications to avoid problems caused by failure of a switch or an interface.

4. Process according to claim 1, further comprising performing a sampling service in a destination equipment that only presents a last received value to a user, and wherein the last received value is systematically overwritten by a new received packet.

5. Process according to claim 1, further comprising performing a queuing service in a destination equipment that presents all data that the destination equipment receives to the user, the queuing service enabling:

sending information that an addressee does not want to lose; and

sending information larger than a maximum packet size of the virtual link, the transmission service then breaking down the data into packets, the reception service reformatting the data to make reformatted data available to the receiving application.

6. Process according to claim 1, further comprising performing a file transfer source in which a data file is transferred, the transmission service breaking the data file down into packets that are then transmitted sequentially, the reception service rebuilding the data file.

7. Process according to claim 1, wherein a passband and an inter-packet time are assigned for each virtual link.

8. Process according to claim 7, further comprising in a subscriber in reception, refining a selection of packets on a same virtual link, by using network addressing information contained in the packet.

9. Process according to claim 8, further comprising achieving data integrity on each packet by a CRC that makes a calculation to validate data transmitted in the packet, checking each packet at each network equipment input, and destroying all bad packets.